

Bureau of Air Permit Section

File Organization Cover Sheet

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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DOUGLAS P. SCOTT, DIRECTOR

217/782-2113

CONSTRUCTION PERMIT NESHAP SOURCE

PERMITTEE

Sterigenics International, Inc.
Attn: Kevin Wagner
2015 Spring Road, Suite 650
Oak Brook, Illinois 60523

NSPS/NESHAP

Application No.: 09020021

I.D. No.: 043110AAC

Applicant's Designation:

Date Received: February 9, 2009

Subject: Alternative Mode of Emission Control for the Aeration Rooms

Date Issued: April 20, 2009

Location: 7775 Quincy Street and 830 Midway Drive, Willowbrook

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of an alternative mode of operation for the five existing aeration rooms, with emissions controlled by only a Dry Bed Reactor Unit, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Introduction

- a. This permit authorizes an alternative mode of operation for the five existing aeration rooms (Willowbrook I, Rooms 1, 2 and 3, and Willowbrook II, Rooms 1 and 2*, also referred to in this permit as the "affected aeration rooms") with emissions of organic material only controlled by the associated Dry Bed Reactors (Willowbrook I SC-2 and Willowbrook II SC-2), bypassing the Acid Water Scrubbers (Willowbrook I SC-1 and Willowbrook II SC-1) in the existing control trains. This is a mode of operation that is not addressed in the current Clean Air Act Permit Program (CAAPP) Permit for the source (CAAPP Permit 95120085, issued December 26, 2006). The Permittee has applied for authorization for this alternative mode of operation to enable aeration of sterilized products to continue during scheduled maintenance and other outages of the Acid Water Scrubbers, which will facilitate compliance with requirements of the federal Food and Drug Administration and improve the service that the Permittee provides to its customers.
 - * Only one of the two Willowbrook II Aeration Rooms is currently in routine operation. The second room is available for use in a backup capacity in the event of an outage of the operating aeration room.
- b. As this permit authorizes an alternative mode of operation for the affected aeration rooms, this permit supersedes certain permit conditions in the current CAAPP Permit for the source that

would be inconsistent with or no longer relevant for this mode of operation. In particular, Conditions 7.5.5(b) and 7.6.5(b) of the current CAAPP Permit, which establish certain minimum operational requirements for Acid Water Scrubbers, are not applicable to a scrubber when it is being bypassed. This is because at such times only the Dry Bed Reactor would be being relied upon for control of emissions and compliance.

2. Applicable Emission Standards

- a. This permit does not alter the emission standards that apply to the affected aeration rooms, which standards are addressed in the current CAAPP Permit for the source and include the following:
 - i. The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Ethylene Oxide Emissions Standards for Sterilization Facilities, 40 CFR 63 Subpart O.
 - ii. The State standards for emissions of organic material for Use of Organic Material, 35 IAC 218.301.
 - iii. The State standards for emissions of VOM from Other Emission Units, 35 IAC 218.986.

3. Applicability of New Source Review

- a. This permit is issued based on operation of the affected aeration rooms in the alternative mode of operation being accompanied with at most a minimal increase in actual emissions of VOM, i.e., less than 0.44 tons of VOM per year. This is because the Dry Bed Reactors, by themselves, can fully control the VOM emissions of the affected aeration rooms, as demonstrated by historic emissions testing with only the Dry Bed Reactors operating. While the Acid Water Scrubbers reduce the amount of VOM entering the reactors and reduce consumption of reactive bed material in the reactors, the scrubbers are not needed for effective control of emissions by the reactors.

4. Operational Requirements

- a.
 - i. The Permittee shall operate the control trains for the affected aeration rooms to comply with the limit for ethylene oxide emissions set by the NESHAP, 40 CFR 63.362(d) and any applicable limits for the operating parameters of the control train established pursuant to the NESHAP or the source-specific monitoring plan for the affected aeration rooms.
 - ii. The above requirement shall not apply during periods of malfunction as defined by the NESHAP, 40 CFR 63.2, provided however that exceedances of emission limits or operating parameters limits during periods of malfunction shall be

treated as deviations from permit requirements and be subject to requirements of the NESHAP and this permit for recordkeeping and reporting of deviations

- b. The Permittee shall operate and maintain the Dry Bed Reactor Units for the affected aeration rooms in accordance with good air pollution control practice to minimize emissions.

5. Emissions Testing

- a. Upon written request from the Illinois EPA or USEPA, the Permittee shall have testing conducted for the emissions of ethylene oxide from the affected aeration rooms while in the alternative mode of operation, as specified by the request. This testing shall be performed within 90 days of the date of the request, unless another date is not specified or agreed to by the Illinois EPA or USEPA.
- b. This testing shall be conducted in accordance with applicable methods and procedures specified by 40 CFR 63.363(c) and (d) and other relevant provisions of the NESHAP, including provisions for pre-test notification, performance of operational monitoring during testing, and formal reporting of test results and supporting information. (See also Conditions 7.5.7 and 7.6.7 of CAAPP Permit 95120085.)

6. Operational Monitoring

- a. As provided by 40 CFR 63.363(e), 63.364(d) and 63.365(g), the Permittee shall conduct operational monitoring for the control trains for the affected aeration rooms in accordance with the source-specific monitoring plan approved by USEPA, including all terms and conditions established by USEPA as part of its approval of this monitoring plan.

Note: Pursuant to the NESHAP, the Permittee must conduct operational monitoring for the affected aeration rooms in accordance with a source-specific monitoring plan because dry bed reactor technology is being used to comply with the NESHAP, i.e., a control technology other than acid-water scrubbing or oxidation. The current source-specific monitoring plan for the aeration rooms, which was approved by USEPA on December 22, 2002, requires that the Permittee conduct measurements on at least a weekly basis for the concentration of ethylene oxide in the exhaust from each Dry Bed Reactor Unit. On February 23, 2009, the Permittee submitted a request to USEPA for approval of certain minor changes to the current monitoring plan to address this alternative mode of operation.

- b. In addition to the operational monitoring required above, the Permittee shall enhance its operational monitoring for the affected aeration rooms to address the potential effects of the

alternative mode of operation on the performance of the Dry Bed Reactor Units, by conducting additional monitoring for periods of extended operation without an Acid Water Scrubber, e.g., additional measurements for periods when a scrubber is out of service for 24 hours or more. This enhanced monitoring shall continue until this monitoring confirms that monitoring on the regular schedule reliably confirms the effective operation of the Dry Bed Reactor Units.

- c. The Permittee shall keep records for the operational monitoring that is conducted for the control trains for the affected aeration rooms. These records shall include both the measured data and supporting information for the implementation of this monitoring.

7. Recordkeeping Requirements

- a. In addition to other required information, in the operating records for the affected aeration rooms, the Permittee shall include the identity of each period when aeration room(s) were in the alternative mode of operation (i.e., emissions were only controlled by a Dry Bed Reactor), with date, duration and the reason why the Acid Water Scrubber was bypassed.
- b. In addition to other required information, in the maintenance records for the Dry Bed Reactor Units, the Permittee shall identify the scheduled and actual dates of each replacement of the bed material in a unit, with amount and type of new bed material added to the unit.
- c. In addition to other required records related to deviations (see 40 CFR 63.10(b)(2)(ii), (vi) through (xii) and (xiv)), the Permittee shall keep records for deviations from applicable requirements of this permit, including the date and time of each deviation, a description of the deviation, the likely cause of the deviation, the corrective actions taken, and the actions taken to prevent similar events in the future.
- d. The Permittee shall retain these records and other records required by this permit at the source and make them available for inspection and copying by the Illinois EPA in accordance with the general provisions for retention and availability of records contained in the source's CAAPP Permit.

8. Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit as follows. These reports shall include: the identity of the deviation, with date, time, duration and description; a description of the effect of the deviation on compliance, with an estimate of the excess emissions that accompanied the deviation, if any; and a

description of the describe the probable cause of the deviation, any corrective actions taken and any preventive measures taken; and any other information required by the NESHAP, if applicable.

- i. Notifications for deviations from requirements of the NESHAP shall be submitted in accordance with the provisions of the NESHAP.
 - ii. Notifications for other deviations shall be submitted in a semi-annual report or a more frequent NESHAP report, if one is required.
- b. The Permittee shall submit these notifications to the Illinois EPA in accordance with the general provisions for submittal of deviations reports contained in the source's CAAPP Permit.

9. Authorization to Operate

- a. The Permittee is allowed to operate the affected aeration rooms in the alternative mode of operation, i.e., with emissions only controlled by the associated Dry Bed Reactor, pursuant to this construction permit until the Illinois EPA takes final action on an application for the source that addresses this mode of operation, provided that the Permittee submits an application for such new or revised operating permit by April 1, 2010 and has any emission testing that is requested pursuant to Condition 5 completed in a timely manner. This condition supersedes Standard Condition 6.

If you have any questions on this permit, please contact Christopher Romaine or Jason Schnepp at 217/782-2113.

COPY

Original Signed by
Edwin C. Bakowski, P.E.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

Date Signed:

April 20, 2009

ECB:CPR:psj

a 4/20/09

cc: Illinois EPA, Region 1
USEPA, Region 5, Linda Rosen



STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
P. O. BOX 19506
SPRINGFIELD, ILLINOIS 62794-9506

STANDARD CONDITIONS
FOR
LIFETIME OPERATING PERMITS

July 1, 1998

The Illinois Environmental Protection Act [415 ILCS 5/39 (formerly Illinois Revised Statutes, Chapter 111-1/2, Section 1039)] grants the Illinois Environmental Protection Agency authority to impose conditions on permits which it issues.

1. The issuance of this permit does not release the Permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.
2. The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.166.
3.
 - a. The Permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted, until the appropriate permit is obtained from the Illinois EPA.
 - b. The Permittee shall obtain a new or revised permit under Section 39.5 of the Act, if the source no longer meets the applicability criteria of 35 Ill. Adm. Code 201.169 because of changes in emission units or control equipment.
 - c. The Permittee shall obtain a revised permit prior to any of the following changes to the source:
 - i. An increase in emissions above the amount the emission unit or the source is permitted to emit; or
 - ii. A modification; or
 - iii. A change in operation that will result in the source's noncompliance with a condition in the existing permit; or
 - iv. A change in ownership, company name, or address, so that the application is no longer accurate.
4.
 - a. This permit only covers emission units and control equipment while physically present at the indicated source location. Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location or if all equipment is removed.
 - b. The Permittee shall notify the Illinois EPA in writing to withdraw the Permit if all operations at the source have been permanently discontinued.

5. The Permittee shall allow any duly authorized agent of the Illinois EPA, upon the presentation of credentials, at reasonable times:
 - a. To enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. To have access to and to copy any records required to be kept under the terms and conditions of this permit;
 - c. To inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. To obtain and remove samples of any discharge or emission of pollutants; and
 - e. To enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.
6. The issuance of this permit:
 - a. Shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located;
 - b. Does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities;
 - c. Does not take into consideration or attest to the structural stability of any unit or part of the project; and
 - d. In no manner implies or suggests that the Illinois EPA (or its officers, agents, or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or source.
7. The Permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.
8. The Permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. These records shall be made available to any agent of the Illinois EPA at any time during normal working hours and/or operating hours. At a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.
9. No person shall cause or allow startup of any emission unit or continued operation during malfunction or breakdown of any emission unit or related air pollution control equipment if such startup or continued operation would cause a violation of an applicable emission standard or permit limitation if such operation is not allowed as a special condition of this Permit, as required by 35 Ill. Adm. Code 201.149.
10. The Permittee shall submit an Annual Emission Report as required by 35 Ill. Adm. Code 201.302 and 35 Ill. Adm. Code Part 254.
11. The Permittee shall pay the annual site fee for the source in accordance with Section 9.5 of the Act.